Indiana Department of Education
SUPPORTING STUDENT SUCCESS

CLASSROOM INNOVATION IN MATHEMATICS GRANT 2010-11

OVERVIEW

Purpose: From 2005 to 2009, state scores in mathematics were stagnant, rising only one percentage point over the four-year span. At the state level, IDOE is currently exploring new, innovative classroom strategies that will help to push mathematics in Indiana forward. One such strategy is the integration of digital curriculum and technology into traditional teaching methodologies.

The purpose of the program is to provide a select number of LEAs with the opportunity to use digital mathematics curricula, technology-based instruction, and interactive white boards in lieu of traditional textbooks. This grant provides an opportunity for LEAs to pilot digital curriculum which can be readily aligned to changes in standards and to determine its effectiveness with their student populations and within their contexts. Following the grant, LEAs will either continue the use of digital curriculum through their textbook rental program or discontinue use of the digital curriculum and seek an alternative for curricular materials. Digital curriculum would need to utilize innovative strategies for instruction and represent a significant break from the traditional textbook-oriented instruction and be approved by the IDOE, but it would not serve as a standalone, online course that replaces the classroom teacher. In order to evaluate the effectiveness of these strategies, awards will be limited to schools that propose plans for either: 6th Grade, 7th Grade, 8th Grade, and/or Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may look at adopting digital mathematics curricula in the future.

This grant program is funded through the David C. Ford Fund.

Application: Please fill out each part completely. For assistance, you may contact Zach Foughty at zfoughty@doe.in.gov or Phone: (317) 233-5019

I. GENERAL INFORMATION

1. Corp # 5900	**2. Corp Name** Monroe Gregg School District	
3. Corp Address (Street, City, State, Zip) 135 S. Chestnut St., Monrovia, IN 46157		**4. Telephone** 317/996-3720
5. Contact Person's Name Michele Moore	**6. Contact Person's Email Address** moorem@m-gsd.org	
7. Contact Person's Address (Street, City, State, Zip) 135 S. Chestnut St., Monrovia, IN 46157		**8. Contact Person's Telephone** 317/996-3720
9. Superintendent's Name Dr. Julie Wood	**10. Superintendent's Email Address** woodj@m-gsd.org	
11. # of Schools Participating 2	**12. # of Students Being Served** 450	**13. # of Teachers Participating** 5

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II. Project Abstract
Briefly describe the proposed project clearly and concisely using the space provided.

Monroe-Gregg School District proposes to integrate ALEKS software and whiteboard technology into the mathematics program in grades 6-8 at Monrovia Middle School and Pre Algebra through Algebra at the high school. Monroe-Gregg has had flat ISTEP scores in mathematics and a poor pass rate on its Core 40 Algebra Assessment since its inception. The ISTEP scores during 2008 and 2009 were 72 and 76 percent passing with no areas netting the 90 percent passing as recommended by the Indiana Department of Education. The Core 40 Algebra pass rate for 2009 was nine percent (9%). This number is far below the required rate for students earning a Core 40 diploma. The AP Calculus course, in the 2009-2010 school year, had under a 10 percent participation rate for students in the senior class, less than half the DOE recommended 25 percent. We realize drastic changes are needed to change the data and culture of poor performance and to better prepare our students for standardized testing, advanced placement courses and post secondary education.

Monroe-Gregg School District is a small, rural school of 1575 students. Prior to the down turn of the economy, the District was seeing growth and still has the potential for growth. Several of the new residents and some of the life long residents commute to Indianapolis for employment (*Source: STATS Indiana, Kelley School of Business)* and another large segment of the population are local farmers. Monroe-Gregg demographically has 25 percent of its population on Free/Reduced Lunch and is ethnically 97% percent Caucasian. The district is composed of three schools, one elementary, one middle school and one high school. Our proposed program would be for the entire middle school (grades 6-8) and all of the Algebra and Pre Algebra at the high school (two teachers).

The proposed program would incorporate the placement of whiteboards in each classroom. Thereby, delivering over 80 percent of the classroom instruction via enhanced technology along with

weekly assessments through ALEKS software. The whiteboards along with voting devices would create the most effective learning environment based on current research (Marzano (2009), Marzano & Haystead (2009), Glover & Miller (2003) (2009), Edwards et al (2002)). A computer lab would be dedicated in the building for the use of the mathematics department along with an additional purchase of bandwidth to increase the speed of the internet providing for an effective use of technology in our school with minimal additional costs.

Please complete one grant narrative for your LEA which includes all schools. Narratives should be double spaced, 12pt Times New Roman font, and not to exceed 10 pages.

III. GRANT NARRATIVE
Software Choice and Rationale: **Identify the digital content program you have selected. Describe how this program aligns with the purpose of the grant. Describe how this program will address the instructional needs of your students and teachers.**

The District has selected ALEKS, Assessment and Learning in Knowledge Spaces, software as the assessment tool to be utilized. This software focuses on four areas the District believes will best align with its purposes, desired outcomes and state curriculum standards. ALEKS is designed to target gaps in student knowledge through the use of artificial intelligence. The District believes this area is a key component of the software that will allow and provide more individualized and differentiated instruction to all students as well as allow for students to have specific reinforcement in areas where they specifically require additional assistance. Second, ALEKS software is standards based and will allow the school district to make the shift from Indiana Mathematics Standards 2000 to the Common Core Standards with ease and success. The online updating will provide students with the latest standards and ensure that the teachers are current in the curriculum requirements and needs while ensuring they are using the best available information. Since textbooks can become outdated soon after publication, ALEKS will allow the students and teachers the opportunity to be on the cutting edge of content knowledge. ALEKS is currently aligned with both the Indiana 2000 standards and the 2009 Indiana standards and is integrated with current mathematics textbooks. The third benefit of the ALEKS software is the assessment tool that will give the District accurate and timely feedback on the progress of the students and teachers in meeting state standards as well as the progress towards the adopted school improvement goals. This information is crucial as the District strives to use data to support and assess student learning. ALEKS understands the need for data to drive decision making and it provides a forum for specific targeted analysis which is key to

streamlining the curriculum needs of individual and group curriculum. The District teachers will use ALEKS as a way of assessing each individual child's performance in class by standard on a weekly basis. This information will be used to determine how each child is progressing in the course goals and meeting statewide standards in a timely manner. ALEKS will assist the District is meeting the needs of its subgroups of special needs and low socioeconomic students by providing a better method of differentiating instruction in the classroom. ALEKS will be a key tool for the district to timely evaluate and assess students in these subgroups. ALEKS will also be a good fit for our district because of its ease of use. It is challenging enough for technologically advanced teachers, but simple enough to use that teachers will little technological experience will be willing to step outside their comfort zone and experiment. Lastly, ALEKS is not a site license based software, but a subscription per student software. For a small district our size, this will provide greater flexibility in programming. ALEKS software will become a self sustaining component of instruction through the process of allowing the software fees to be added to the textbook rental costs on a per child basis. This will allow better management of costs in the future for the District and for parents. In addition, ALEKS will allow for fluctuations in specific grade level populations, since the District will be purchasing only the specific number of subscriptions needed in each grade level, allowing for better cost control. It will thereby prevent the expenditure of funds on software subscriptions not being utilized due to small class sizes of less than 130 students per grade level.

***Professional Development*: Describe the PD needs of your teacher for using interactive whiteboards and implementing digital curriculum and detail the specific plan for meeting those needs.**

Two days of In-Service will be provided for teachers prior to the start of the school year in order to provide training in the use of the digital technology (whiteboards) and the use of the assessment technology (ALEKS). The teaching staff has little, to no experience in the use of whiteboards. The District will need to hire a competent, trained technology person to assist teachers in using the

hardware. The Professional Development plan will allow for one day of the professional development in the summer with the vendor selected for the purchase of the whiteboards. This training session will be for the use of integrating the whiteboards into the classroom the instruction in order to provide 80 percent digital delivery. The second day of professional development will be hosted by the ALEKS software vendor in order to provide the teachers with instruction in the utilization of the ALEKS software as a weekly assessment tool. Our current Master Teacher contract requires a summer stipend for teachers who are asked to participate in summer Professional Development at the rate of $20/hour. These costs are requested in the budget section of the grant. The District will also provide release time during the first semester for review and evaluation of implementation in the classroom by each teacher, areas of concern and areas in need of growth. During this time, teachers will be able to address any ongoing issues with curriculum, assessment, and/or the software. The plan includes a monthly meeting with teachers for the first school year to discuss any ongoing issues and to help make the shift from teacher driven instruction to technology enhanced instruction. A blog using Blogger.com will also be developed by the administration allowing teachers a common area to post comments, share successes, voice concerns and problem-solve any issues that may arise over time using the digital tools and assessments. This timely method of professional development will help to ensure the five math teachers involved in this program become a community of learners who share the experience with each other so that continuous improvement takes place. The District believes the students will experience a better learning environment and a stronger academic curriculum when the teachers share, talk, and work together to deliver the new digital technology. Creating a blog will allow the school system more flexibility in communication among teachers and between teachers and administrators. Teachers will not need to have a substitute to arrange meeting times; it can be conveniently done during the teacher's

preparation period or before/after school. Teachers will also be able to post shared lessons and other tools for integration horizontally as well as vertically between grades 6-8 and Algebra classes. The District will monitor the blog weekly in order to remain informed, to review discussions and to assist teachers with problems or issues in the classroom. The project coordinator will review the blog as well as monitor and post suggestions and provide review and feedback for individual teachers. This method of oversight will provide documentation for the school about how effective the digital instruction is as well as track technology implementation issues.

***Implementation Plan – Digital Content*: Describe your plan for monitoring the implementation of the digital content with fidelity to program guidelines.**

Monroe Gregg School District plans to monitor the implementation for the digital content through multi facets. First, the District will work closely with the vendor, ALEKS, to ensure that all digital content is delivered in the methods for which the curriculum is designed and that the delivery of instruction complies with the expectations from the vendor. The school administrators will oversee the implementation of the content delivery and ensure each teacher is accountable for the expectations of the software vendor. The District will also adequately train teachers in ALEKS software during an in-service day prior to the beginning of the 2010-2011 school year ensuring all teachers are adequately instructed in how to integrate ALEKS software. A key component of the in-service is to ensure teachers have the knowledge to implement the digital software so that the instructional content makes up 80 percent of the classroom instruction. The school district will monitor this progress through informal, in-class observations by school level administrators conducted twice a year and the Project Coordinator, Michele Moore. The school district also plans to hold an additional in-service day to train teachers in the use of whiteboard technology as a teaching tool. This day, prior to the beginning of school in August, will specifically address how to use the whiteboards, basic set up and maintenance, and how to integrate the whiteboards into the

curriculum as an effective learning tool. Acuity software will be used by the District as a method of assessing the effectiveness of the digital technology. Acuity will be our common assessment to compare student growth both individually and by grade level. The use of Acuity will allow the teachers to disaggregate data by school, grade level, standard, and individual student. It will allow for better integration of the Indiana Growth Model Plan into the daily learning environment of teachers and students while assisting the school in differentiating instruction for all students. The Acuity scores will be reviewed by both the individual teachers and Michele Moore, the Project Coordinator. In addition, the Superintendent, Dr. Julie Wood, will be review progress twice a year.

Implementation Plan – Interactive Whiteboards: **Outline your current inventory of interactive whiteboards, how you can realign current inventory to meet program goals of one interactive whiteboard per classroom mathematics teacher, and what funds you would apply for in order to address these gaps.**

Currently, the District has no interactive whiteboards for use in the classroom. The District has one whiteboard and one set of voting devices which were purchased with previous grant monies. Both of these items are available for all teachers to use per grant requirements and are housed in the media center and available for check out by teachers as needed. In the District technology plan, available funds have been used to purchase LCD projectors for teachers to utilize within individual classrooms. However, the LCD projectors have to be checked out of the Media Center each day as the District does not have enough for each classroom. Due to the constraints of the Capital Projects Fund no additional funds have been available for the purchase of additional whiteboards. The grant will provide funds to purchase five whiteboards for use in the five teacher classrooms, who will be involved in this project, as well as the accompanying voting devices. The District can guarantee that it will have all five whiteboards in place by the first day of school, August 9, 2010. The technology department, along with the Superintendent, is committed to meeting this deadline and allocating necessary funds to ensure the implementation of the project. Mr. Barry Neuman, Director of Technology will be in charge of this component. The District also plans to request an additional

$25,000 in funding. Of this amount, $8,400 will be used to upgrade our bandwidth in order to ensure the performance and speed of the internet service. This additional cost is necessary in order for the District to be able to load and run the online testing software and decrease the wait time that will occur within the existing bandwidth capability due to the increase in the volume of users anticipated. The additional costs for the added bandwidth have been budgeted in the Capital Projects Fund Budget and will be absorbed by the corporation beginning in August 2011, so that the program becomes self-sustaining. The other $16,600 is to be used to purchase additional computers for a dedicated math computer lab allowing testing space to be at the disposal of the five math teachers on a weekly basis. The lab will be housed in a convenient location for both the middle school and high school teachers and will accommodate all students in each class in order to meet the need for the weekly assessments taken by students.

Implementation Plan – Online Assessments: **Describe each school's capacity and commitment to administer online ISTEP+ and ECA assessments, as well as Acuity Assessments, both with and without additional lab space that grant funds could provide. Describe how teachers will ensure that students are trained on how to properly complete online assessments.**

The school system is ready for the challenge of going to an online testing environment. The District currently tests all of its ECA assessments on line and has had a successful experience in this method of testing. The District has the necessary lab space to add the ISTEP testing with relative ease. The grant will provide the District with the additional funds necessary to add a dedicated math computer lab to ensure space is available for the required weekly assessments. The high school currently has two computer labs with 25 computers each available for online testing. These labs are currently utilized for the ECA assessments in Algebra I, English 10 and Biology. The High School has successfully tested online in these three areas and believe the addition of Acuity testing for Algebra I will not pose a problem for the high school. The middle school also has two available computer labs for online testing. Both labs have at least 25 computers and can be used throughout the day for

testing. The Middle School is currently using paper and pencil for our ISTEP+ test, but the move to an online test will not be difficult as the District has the dedicated computer environment for this task. The only change for the school will be in the area of scheduling for various classes throughout the day in the lab for testing. As part of the grant, the District is also asking for additional funds to upgrade the bandwidth to increase the speed of the internet to provide greater assurances that the testing instruments will load and work efficiently when needed and to provide the hardware for creating another computer lab to be shared by the middle and high school for the dedicated math testing. Currently the District has used at various locations and times Scantron testing and NWEA testing within all three schools: Monrovia Elementary, Monrovia Middle, and Monrovia High Schools. The student body is familiar with online testing and has experience in this method of assessment. The teaching staff is comfortable with an online delivering method for assessments and is able to ensure students are comfortable in this assessment scenario.

IV. BUDGET

See program overview for allowable costs. List each expenditure on a separate line.

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Digital curriculum subscriptions (list vendor) ALEKS Software,	Barry Neuman, Director of Technology	$ 30	450	$ 13,500
Professional development reimbursements	Kelly Dillon, Corporation Treasurer	$300	5	$ 1,500
Interactive whiteboard (list make and model number) Smart Technologies SENTEO SMA SNT-32 voting devices with SB680 Smartboard	Barry Neuman, Director of Technology	$3,500	5	$17,500
Acuity Algebra set-up fee	Dr. Julie Wood, Superintendent			$ 4,500
Cost for Acuity Algebra administration (per student)	Dr. Julie Wood, Superintendent	$ 8.75	150	$ 1,313
Costs related to online assessment	Dr. Julie Wood, Superintendent			$10,000
			Total Funds Requested	$ 48,313

LOCAL SHARE*

***This is not a requirement for the grant, but it will help us to determine the additional resources need at the local level.**

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Professional Development—additional fees to meet teacher contract requirements	Dr. Julie Wood	$ 20	5	$ 100
Additional lab set up	Mr. Barry Neuman			$16,600
Additional Costs for Interactive Whiteboard (e.g. installation materials)				
Additional Bandwidth for internet access and speed	Mr. Barry Neuman	$720/month	12	$8,400
			Total Funds Requested	$ 25,100

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V. ASSURANCES

By checking each box below, you agree to the following assurances:

- ☑ The LEA assures that Acuity online assessments will be administered to assess student growth during the grant period (e.g. Acuity Predictive or Pre/Post Test; the exact assessments will be determined by the DOE, but will not exceed 3 tests during the school year, excluding ISTEP+ and ECA).
- ☑ The LEA assures that, given favorable results on a statewide level, it will give serious consideration to sustained use of digital curricula in all schools in the LEA until the next textbook adoption cycle (2016-17 school year).
- ☑ The LEA assures that the selected digital curriculum will be implemented, with fidelity, as the core curriculum for all mathematics classrooms (6th Grade, 7th Grade, 8th Grade, and/or Algebra I) at each school that receives grant funds, for the duration of the school year. "With fidelity" implies that districts will take the steps necessary to implement the digital curriculum as outlined by the vendor.
- ☑ The LEA assures that teachers will be provided with professional development necessary to implement digital curriculum with fidelity. Professional development includes, but is not limited to, training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom, and using Acuity assessments to guide instruction.
- ☑ The LEA assures that funds used for interactive whiteboards will remain in mathematics teacher classrooms for the duration of the program. Any realignment of current inventory for these purposes will also remain in effect for the duration.
- ☑ The LEA assures that all 7th and 8th grade students in Algebra I will take the Algebra ECA online.
- ☑ The LEA assures that all students will take the ISTEP+ online, unless the school can demonstrate an inability to test all students online.
- ☑ The LEA assures that all teachers that use digital curriculum will participate in an *anonymous* evaluation of the program to determine its ability to impact teaching methods.
- ☑ The LEA assures that classrooms in which digital curriculum is being used will be available for observation by certain members of the Department of Education, with reasonable notification, to provide for a qualitative analysis of program effectiveness.
- ☑ The LEA assures that all students will complete a survey regarding the effectiveness of the digital curriculum.
- ☑ The LEA assures that all hardware and software implementations will be put in place before the start of the 2010-11 school year and that professional development related to this program will begin before the start of the 2010-11 school year.
- ☑ The LEA agrees to keep such records and to provide such information to the State educational agency, as may be reasonably required for fiscal audit and program evaluation (consistent with the responsibilities of the State educational agency under this part).

VI. SIGNATURES

List the management team of this grant for each school. Each member of the management team should also sign below. Complete this sheet for *each* school that is included in the district's implementation plan.

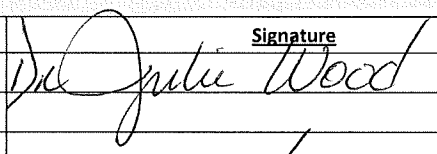
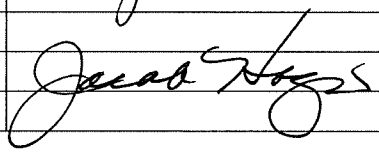
School Name: Monrovia High School **Grade Levels: Pre algebra - Algebra**

NAME	POSITION	Signature
1. Dr. Julie Wood	Superintendent	Dr. Julie Wood
2. none	District Math Coordinator	
3. none	District Assessment Coordinator	
4. Mr. Jacob Hagist	Principal	Jacob Hagist
5. Mrs. Stephanie Neibert	Math Department Chair	Stephanie Neibert

VI. SIGNATURES

List the management team of this grant for each school. Each member of the management team should also sign below. Complete this sheet for *each* school that is included in the district's implementation plan.

School Name: Monrovia Middle School **Grade Levels:** 6-8

NAME	POSITION	Signature
1. Dr. Julie Wood	Superintendent	
2. none	District Math Coordinator	
3. none	District Assessment Coordinator	
4. Mr. Jacob Hagist	Principal	
5. none	Math Department Chair	

Monroe Gregg - 5900

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Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Digital curriculum subscriptions (list vendor) ALEKS Software,	Barry Neuman, Director of Technology	$ 30	450	$ 13,500
Professional development reimbursements	Kelly Dillon, Corporation Treasurer	$300	5	$ 1,500
Interactive whiteboard (list make and model number) Smart Technologies SENTEO SMA SNT-32 voting devices with SB680 Smartboard smartboard.....$1400 voting response.....$2000 use existing projector....free Setup $100 total.....$3500	Barry Neuman, Director of Technology	$3,500	5	$17,500
Acuity Algebra set-up fee	Dr. Julie Wood, Superintendent			$ 4,500
Cost for Acuity Algebra administration (per student)	Dr. Julie Wood, Superintendent	$ 8.75	150	$ 1,313
Costs related to online assessment—Additional costs for more computers for a lab $1000 per computer for a cost of 16.6 computers—The remainder of the 13.4 computer will be purchased by the district	Dr. Julie Wood, Superintendent			$16,600
Additional Bandwidth for internet access and speed	Mr. Barry Neuman	$720/month	12	$8,400
			Total Funds Requested	$ 63,313

LOCAL SHARE*

***This is not a requirement for the grant, but it will help us to determine the additional resources need at the local level.**

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Professional Development—additional fees to meet teacher contract requirements	Dr. Julie Wood	$ 20	5	$ 100
Additional lab set up-- Remainder of the computer costs for the lab 14.4 computers				$14,400

Additional Costs for Interactive Whiteboard (e.g. installation materials)				
			Total Funds Requested	$14,500